

## SEQUENCE LISTING

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<120> Vascular Endothelial Growth Factor-X

<130> 51935/004

<140> PCT/US99/30503

<141> 1999-12-21

<150> GB 9828377.3

<151> 1998-12-22

<150> US 60/124,967

<151> 1999-03-18

<150> US 60/164,131

<151> 1999-11-08

<160> 97

<170> PatentIn Ver. 2.0

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<212> PRT

<213> Homo sapiens

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&lt;211&gt; 1035

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3

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<210> 4
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<220>
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<220>
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<220>
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<220>  
<223> Description of Artificial Sequence: primer

<400> 7  
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<400> 8  
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<223> Description of Artificial Sequence:primer

<400> 16  
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 Gly Ser Ile His Ser Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr  
                   20                  25                  30  
 Val Leu Val Trp Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln  
           35                  40                  45



Leu Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile  
 50 55 60

Cys Lys Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile  
 65 70 75 80

Leu Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser  
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<210> 27

<211> 168

<212> PRT

<213> Homo sapiens

<400> 27

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 35 40 45

Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro His Thr Tyr  
 50 55 60

Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val Glu Glu Asn  
 65 70 75 80

Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro  
 85 90 95

Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu Glu Pro Ser  
 100 105 110

Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly  
 115 120 125

Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp  
 130 135 140

Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val  
 145 150 155 160

Met Pro Gln Phe Thr Glu Ala Val  
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<210> 28

<211> 504

<212> DNA

<213> Homo sapiens

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 120  
 cctcagcatg agagaattat tactgtgtct actaatggaa gtattcacag cccaaggttt  
 180  
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 300  
 tgcaagtatg attttgtaga agttgaggaa cccagtgatg gaactatatt agggcgctgg  
 360  
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 atgccacaat tcacagaagc tgtg  
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<210> 29  
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 <212> PRT  
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 Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu  
 35 40 45  
 Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val  
 50 55 60  
 Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu  
 65 70 75 80  
 Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu  
 85 90 95  
 Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr  
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 <223> Description of Artificial Sequence: Human EST

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 120  
 agtggctgat tctattagag aacgtatgcg ttatctccat ccttaatctc agttgtttgc  
 180  
 ttcaaggacc ttcatcttc aggatttaca gtgcattctg aaagaggaga catcaaacag  
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<210> 31

<211> 284

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

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 tcaaacagaa ttaggagttg tgcaacagct cttttgagag gaggcctaaa ggacaggaga  
 180  
 aaaggtcttc aatcgtggaa agaaaattaa atgttgattt aaatagatca ccagctagtt  
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 284

<210> 32

<211> 275

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 32

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 180  
 tagagaacgt atgcgttatc tccatcctta atctcagttg ttgcttcaa ggacctttca  
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<210> 33

<211> 278

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Human EST

<400> 33

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 <212> DNA  
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 <223> Description of Artificial Sequence: Human EST

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 120  
 ctttcatctt caggatttac atgcattctg aaagaggaga catcaaacag aattaggagt  
 180  
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<210> 35  
 <211> 261  
 <212> DNA  
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<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 35  
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<210> 36  
 <211> 279  
 <212> DNA  
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<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 36  
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 180

tgcaatgaat gtcaatgtgt cccaagcaaa gttactaaaa aataccacga ggtccttcag  
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 279

<210> 37

<211> 262

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

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 120  
 aactaaagag aaccgatacc attttctggc caggttgtct cctgggttaa cgctgtggtg  
 180  
 ggaactgtgc ctgttgtctc ccacaattgc aatgaatgtc aatgtgtccc aagcaaagtt  
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<210> 38

<211> 289

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Human EST

<400> 38

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 120  
 gaaanaaaat taaatgttgt attaaataga tcaccagcta gtttcagagt taccatgtac  
 180  
 gtattccact agctgggttc tgtatttcag ttctttcgat acggcttagg gtaatgtcag  
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 tacaggaaaa aaactgtgca agtgagcacc tgattccggt gccttgctt  
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<210> 39

<211> 245

<212> DNA

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<223> Description of Artificial Sequence: Human EST

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245

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attctgaaag aggagacatc aaacagaatt aggagttgtg caacagctct tttgagagga  
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atagatc  
247

<210> 41  
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<223> Description of Artificial Sequence: Human EST

<400> 41  
aggaaatcaa attaggataa gatttgtatc tgatgaatat tttccttctg aaccttctaa  
60  
cagaggaggt aagattatac agctgcacac ctcgtaactt ctcagtgtcc ataagggaag  
120  
aactaaagag aaccgatacc attttctggc caggttgtct cctgggttaa cgctgtggtg  
180  
ggaactgtgc ctgttgtctc cacaattgca atgaatgtca atgtgtccca ag  
232

<210> 42  
<211> 253  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 42  
gtgcattctg aaagaggaga catcaaacag aattaggagt tgtgcaacag ctcttttgag  
60  
aggaggccta aaggacagga gaaaaggctt tcaatcgtgg aaagaaaatt aaatgttgta  
120  
ttaaatagat caccagctag tttcagagtt accatgtacg tattccacta gctgggttct  
180  
gtatttcagt tctttcgata cggcttaggg taatgtcagt acaggaaaaa aactgtgcaa  
240  
gtgagcacct gat  
253

<210> 43

<211> 265  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 43  
 tgcaacagct cttttgagag gaggcctaaa ggacaggaga aaaggtcttc aatcgtggaa  
 60  
 agaaaattaa atgttgattt aaatagatca ccagctagtt tcagagttac catgtacgta  
 120  
 ttccactagc tgggttctgt atttcagttc tttcgatacg gcttagggta atgtcagtac  
 180  
 aggaaaaaaa ctgtgcaagt gagcacctga ttccgttgcc ttgcttaacc ctaaagcncc  
 240  
 atgtcnnggg cnaaaancga aaaat  
 265

<210> 44  
 <211> 291  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 44  
 ccttaatctc agttgtttgc ttcaaggacc tttcatcttc aggatttaca gtgcattctg  
 60  
 naagangaga catcaaacag aattaggngt tgtgcaaaag ctcttttgag aggaggccta  
 120  
 aaggacagga gaaaaggctt ncaatcgtgg aaagnaaatt aaatgttgta tnaaatngat  
 180  
 caccagctag tttcagagtt accatgtacg tattccacta gctgggnong tattcagtct  
 240  
 ttcggaacgg cttagggttaa tgtcagtaca gganaaaaac tgtgcagtga g  
 291

<210> 45  
 <211> 279  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 45  
 attaaataga tcaccagcta gtttcagagt taccatgtac gtattccact agctgggttc  
 60  
 tgtatttcag ttctttcgat acggcttagg gtaatgtcag tacaggaaaa aaactgtgca  
 120  
 agtgagcacc tgattccgtt gccttggtt aactctaaag ctccatgtcc tgggcctaaa  
 180  
 atcgtataaa atctggattt tttntttttt ttttgcgcat attcacatat gtaaaccagn  
 240  
 acattctatg tacnacaaac ctggttttta aaaaggaac  
 279

<210> 46  
 <211> 181  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 46

ggctagtttc agagttacca tgtacgtatt ccactagctg ggttctgtat ttcagttctt  
60  
tcgatacggc ttagggtaat gtcagtacag gaaaaaaact gtgcaagtga gcacctgatt  
120  
ccgttgccct gcttaactct aaagctccat gtcctgggcc taaaatcgta taaaatctgg  
180  
a  
181

<210> 47

<211> 184

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 47

aatagatcac cagctagttt cagagttacc atgtacgtat tccactagct gggntctgta  
60  
tttcagttcc ttccgatacg gcttagggta atgtcagtac aggaaaaaag ctgtgcaagt  
120  
gagcacctga ttccgttgcc ttgcttaact ctaaagctcc atgtcctggg cctaaaatcg  
180  
tata  
184

<210> 48

<211> 290

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 48

aaaggaacta tggtgctatg aattaaactt gtgtcgtgct gataggacag actggatttt  
60  
tcatatttct tattaaaatt tctgccattt agaagaagag aactacattc atggtttgga  
120  
agagataaac ctgaaaagaa gagtggcctt atcttcactt tatcgataag tcagtttatt  
180  
tgtttcattg tgtacatttt tatattctcc ttttgacatt ataactgttg gctttttctaa  
240  
tcttggttaa tatatctatt ttaccaaag gtatttaata ttctttttta  
290

<210> 49

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 49



cacaaatcac tcaccgacgt ggccctggag caccatgagg ngtgtgactg tgtgtgcaga  
60  
gggagcacag gaggatagcc gcaccaccac cagcagctct tgcccagagc tgtgcagtgc  
120  
agtggctgat tctattagag aacgtatgcg ttatctccat ccttaatctc agttgtttgc  
180  
ttcaaggacc tttcatcttc aggatttaca gtgcattctg aaagaggaga catcaaacag  
240  
aattaggagt tgtgcaacag ctcttttgag aggaggctaa aggacaggag aanaggtctt  
300

<210> 50  
<211> 284  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 50  
tgcagtgcag tggctgattc tattagagaa cgtatgcgtt atctccatcc ttaatctcag  
60  
ttgtttgctt caaggacctt tcattcttcag gatttacagt gcattctgaa agaggagaca  
120  
tcaaacagaa ttaggagttg tgcaacagct cttttgagag gaggcctaaa ggacaggaga  
180  
aaaggtcttc aatcgtggaa agaaaattaa atgttgtatt aaatagatca ccagctagtt  
240  
tcagagttac catgtacgta ttccactagc tgggttctgt attt  
284

<210> 51  
<211> 301  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 51  
cttggttaa atctctatctt ttaccaaagg tatttaatat tctttantta tgacaactta  
60  
gatcaactat ttttagcttg gtaaatTTTT ctaaacacaa ttgttatagc cagaggaaca  
120  
aagatgatat aaaatattgt tgctctgaca aaaatacatg tatttcattc tcgtatggtg  
180  
ctagagttag attaatctgc attttaaaaa actgaattgg aatagaattg gtaagttgca  
240  
aagactTTTT ganaataatt aaattatcat atcttccatt cctgttattg ggggagaaaa  
300  
t  
301

<210> 52  
<211> 275  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 52

cacgaggtcc ttcagttgag accaaagacc ggtgtcaggg gattgcacaa atcactcacc  
60  
gacgtggccc tggagcacca tgaggagtgt gactgtgtgt gcagagggag cacaggggga  
120  
tagccgcac accaccagca gctcttgccc agagctgtgc agtgcagtgg ctgattctat  
180  
tagagaacgt atgcgttatc tccatcctta atctcagttg ttgcttcaa ggacctttca  
240  
tcttcaggat ttacagtgca ttctgaaaga ggaga  
275

<210> 53  
<211> 288  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 53  
ttaaaaagga actatgttgc tatgaattaa acttgtgtca tgctgatagg acagactgga  
60  
tttttcatat ttcttattaa aatttctgcc atttagaaga agagaactac attcatgggt  
120  
tggaagagat aaacctgaaa agaagagtgg ccttatcttc actttatcga taagtcagtt  
180  
tatttgtttc attgtgtaca tttttatatt ctctttttga cattataact gttggctttc  
240  
taatctgtta aatatatcta tttttaccaa aggtatttaa tattcttt  
288

<210> 54  
<211> 278  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 54  
ggaggatagc cgcacaccca ccagcagctc ttgccagag ctgtgcagtg cagtggctga  
60  
ttctattaga gaacgtatgc gttatctcca tccttaatct cagttgtttg cttcaaggac  
120  
ctttcatctt caggatttac agtgcattct gaaagaggag acatcaaaca gaattaggag  
180  
ttgtgcaaca gctcttttga gaggaggcct aaaggacagg agaaaaggtc ttcaatcgtg  
240  
gaaagaanat taaatgttgt attaaataga caccagct  
278

<210> 55  
<211> 275  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 55  
ggaggatagc cgcacaccca ccagcagctc ttgccagag ctgtgcagtg cagtggctga  
60

ttctattaga gaacgtatgc gttatctcca tccttaatct cagttgtttg cttcaaggac  
 120  
 ctttcatctt caggatttac atgcattctg aaagaggaga catcaaacag aattaggagt  
 180  
 tgtgcaacag ctcttttgag aggaggccta aaggacagga gaaaaggctt tcaatcgtgg  
 240  
 aaagaaaatt aaatgttgta ttaaatagat cacca  
 275

<210> 56  
 <211> 261  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 56  
 gagaaccgat accattttct ggccagggtg tctcctggtt aaacgctgtg gtgggaactg  
 60  
 tgctgttgt ctccacaatt gcaatgaatg tcaatgtgtc ccaagcaaag ttactaaaaa  
 120  
 ataccacgag gtccttcagt tgagaccaa gaccggtgtc aggggattgc acaaatcact  
 180  
 caccgacgtg gccctggagc accatgagga gtgtgactgt gtgtgcagag ggagcacagg  
 240  
 aggatagccg catcaccacc a  
 261

<210> 57  
 <211> 279  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 57  
 agaaaatcca gagtgggtgga tctgaacctt ctaacagagg aggtaagatt atacagctgc  
 60  
 acacctcgta acttctcagt gtccataagg gaagaactaa agagaaccga taccattttc  
 120  
 tggccagggt gtctcctggt taaacgctgt ggtgggaact gtgctgttg tctccacaat  
 180  
 tgcaatgaat gtcaatgtgt cccaagcaaa gttactaaaa aataccacga ggtccttcag  
 240  
 ttgagaccaa agaccggtgt caggggattg cacaaatca  
 279

<210> 58  
 <211> 259  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 58  
 agatgatata aaatattgtt gctctgacaa aaatacatgt atttcattct cgtatgggtgc  
 60  
 tagagttaga ttaatctgca ttttaaaaaa ctgaattgga atagaattgg taagttgcaa  
 120

agactttttg aaaataatta aattatcata tttccattc ctgttattgg agatgaaaat  
 180  
 aaaaagcaac ttatgaaagt agacattcag atccagccat tactaaccta ttcctttttt  
 240  
 ggggaaatct gaggctagc  
 259

<210> 59  
 <211> 284  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 59  
 tttttaaaaa ggaactatgt tgctatgaat taaacttggtg tcgtgctgat aggacagact  
 60  
 ggattttttca tatttcttat taaaatttct gccatttaga agaagagAAC tacattcatg  
 120  
 gtttggaaga gataaacctg aaaagaagag tggcctatct tcactttatc gataagtcag  
 180  
 tttatttggtt tcattgtgta catttttata ttctcctttg acatataact gttggctttt  
 240  
 ctaatctggtt aaatatatct atttttacca aaggtattta atat  
 284

<210> 60  
 <211> 262  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 60  
 aggaaatcaa attaggataa gatttgtatc tgatgaatat tttccttctg aaccttctaa  
 60  
 cagaggaggt aagattatac agctgcacac ctcgtaactt ctcagtgtcc ataagggaag  
 120  
 aactaaagag aaccgatacc attttctggc caggttgtct cctgggttaa cgctgtggtg  
 180  
 ggaactgtgc ctgttgtctc ccacaattgc aatgaatgtc aatgtgtccc aagcaaagtt  
 240  
 actaaaaaat accacgaggt cc  
 262

<210> 61  
 <211> 289  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 61  
 atttcatctt caggatttac agtgcattct gaaanaggag aaatcaaaca naattaggag  
 60  
 ttgtgcaaca gctcttttga gaggaggcct aaaggacagg agaaaaggtc ttcaatcgtg  
 120  
 gaaanaaaaat taaatgttgt attaaataga tcaccagcta gtttcagagt taccatgtac  
 180

gtattccact agctgggttc tgtatttcag ttctttcgat acggcttagg gtaatgtcag  
 240  
 tacaggaaaa aaactgtgca agtgagcacc tgattccgtt gccttgctt  
 289

<210> 62  
 <211> 251  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 62  
 ttagcttggn aaatTTTTtct aaacacaatt gttatagcca gaggaacaaa gatgatataa  
 60  
 aatattgttg ctctgacaaa aatacatgta ttccattctc gtatgggtgct agagtttagat  
 120  
 taatctgcat tttaaaaaac tgaattggaa tagaattgggt aagttgcaaa gactTTTTtga  
 180  
 aaataattaa attatcatat cttccattcc tgttattgga gatgaaaata aaaagcaact  
 240  
 tatganagta g  
 251

<210> 63  
 <211> 252  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 63  
 cttttttatg acaacttaga tcaactatTTt ttagcttggt aaatTTTTtct aaacacaatt  
 60  
 gttatagcca gaggaacaaa gatgatataa aatattgttg ctctgacaaa aatacatgta  
 120  
 ttccattctc gtatgggtgct agagtttagat taatctgcat tttaaaaaac tgaattggaa  
 180  
 tagaattgggt aagttgcaaa ggctTTTTtga aaataattaa attatcatat cttccattcc  
 240  
 tgttattggn gg  
 252

<210> 64  
 <211> 245  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 64  
 caaagttact aaaaaatacc acgaggtcct tcagttgaga ccaaagaccg gtgtcagggg  
 60  
 attgcacaaa tcactcaccg acgtggccct ggagcaccat gaggagtgtg actgtgtgtg  
 120  
 cagaggggagc acaggaggat agccgcatca ccaccagcag ctcttgccca gagctgtgca  
 180  
 gtgcagtggc tgattctatt agagaacgta tgcgttatct ccatccttaa tctcagttgt  
 240

ttgct  
245

<210> 65  
<211> 245  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 65  
agataaacct gaaaagaaga gtggccttat cttcacttta tcgataagtc agtttatttg  
60  
tttcattgtg tacattttta tattctcctt ttgacattat aactggtggc ttttctaata  
120  
ttgttaaata tatctatttt taccaaaggt atttaatat cttttttatg acaacttaga  
180  
tcaactattt ttagcttggg aaatttttct aaacacaatt gttatagcca gaggaacaaa  
240  
gatga  
245

<210> 66  
<211> 243  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 66  
ctggattttt catatttctt attaaaattt ctgccattta gaagaagaga actacattca  
60  
tggtttgga gagataaac tgaaaagaag agtggcctta tcttcacttt atcgataagt  
120  
cagtttattt gtttcattgt gtacattttt atattctcct ttgacatta taactgttgg  
180  
cttttctaata cttgttaaata atatctattt ttaccaaagg tatttaatat tcttttttat  
240  
gac  
243

<210> 67  
<211> 244  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 67  
gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa  
60  
gganctatgt tgctatgaat taaacttgtg tcgtgctgat aggacagact ggatttttca  
120  
tatttcttat taaaatttct gccatttaga agaagagaac tacattcatg gtttggaaga  
180  
gataaacctg aaaagaagag tggccttatc ttcantttat cgataagtca gtttatttgt  
240  
ttca  
244

<210> 68  
 <211> 247  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 68  
 angagttgcc cagagctgtg cagtgcagtg gctgattcta ttagagaacg tatgcgttat  
 60  
 ctccatcctt aatctcagtt gtttgnttca aggacctttc atcttcagga tttacagtgc  
 120  
 attctgaaag aggagacatc aaacagaatt aggagttgtg caacagctct tttgagagga  
 180  
 ggcctaaagg ncaggagaaa aggtcttcaa tcgtggaaag aaaattaaat gttgtattaa  
 240  
 atagatc  
 247

<210> 69  
 <211> 233  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 69  
 aaagatgata taaaatattg ttgctctgac aaaaatacat gtatttcatt ctcgatatggt  
 60  
 gctagagtta gattaatctg cattttaaaa aactgaattg gaatagaatt ggtaagttgc  
 120  
 aaagactttt tgaaaataat taaattatca tatcttccat tcctgttatt ggagatgaaa  
 180  
 ataaaaagca acttatgaaa gtagacattc agatccagcc attactaacc tat  
 233

<210> 70  
 <211> 232  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 70  
 aggaaatcaa attaggataa gatttgtatc tgatgaatat tttccttctg aaccttctaa  
 60  
 cagaggaggt aagattatac agctgcacac ctcgtaactt ctcagtgtcc ataagggaag  
 120  
 aactaaagag aaccgatacc attttctggc caggttgtct cctgggttaaa cgctgtgggtg  
 180  
 ggaaactgtgc ctgttgtctc cacaattgca atgaatgtca atgtgtccca ag  
 232

<210> 71  
 <211> 253  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 71

gtgcattctg aaagaggaga catcaaacag aattaggagt tgtgcaacag ctcttttgag  
60  
aggaggccta aaggacagga gaaaaggctt tcaatcgtgg aaagaaaatt aaatgttgta  
120  
ttaaatagat caccagctag tttcagagtt accatgtacg tattccacta gctgggttct  
180  
gtatttcagt tctttcgata cggcttaggg taatgtcagt acaggaaaaa aactgtgcaa  
240  
gtgagcacct gat  
253

<210> 72

<211> 233

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 72

tgtacatttt tatattctcc ttttgacatt ataactgttg gcttttcnaa tcttggttaa  
60  
tatatctatt tttaccaaag gtatttaata ttctttttta tgacaactta gatcaactat  
120  
ttttagcttg gtaaattttt ctaaacacaa ttgttatagc cagaggaaca aagatgatat  
180  
aaaatattgt tgctctgaca aaaatacatg tatttcattc tcgtatgggtg cta  
233

<210> 73

<211> 250

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 73

cacaattggt atagccagag gaacaaagat gatataaaat attggtgctc tgncaaaaat  
60  
acatgtatct cattctcgta tgggtgctaga gttagattaa tctgcatttt aaaaaactga  
120  
attggaatag aattggtaag ttgcaaagac tttttgaaaa taattaaatt atcatatctt  
180  
ccattcctgt tattggagat gaaaataaaa agcaacttat gaaagtaaatt tcagatccac  
240  
cattactaac  
250

<210> 74

<211> 247

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 74



atctcattct cgtatggtgc tagagttaga ttaatctgca ttttaaaaaa ctgaattgga  
60  
atagaattgg taagttgcaa agactttttg aaaataatta aattatcata tcttccattc  
120  
ctgttattgg agatgaaaat aaaaagcaac ttatgaaagt agacattcag atccagccat  
180  
tactaaccta ttcctttttt ggggaaatct gagcctagct cagaaaaaca taaagcacct  
240  
tgaaaaa  
247

<210> 75  
<211> 265  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 75  
tgcaacagct cttttgagag gaggcctaaa ggacaggaga aaaggtcttc aatcgtggaa  
60  
agaaaattaa atgttgattt aaatagatca ccagctagtt tcagagttac catgtacgta  
120  
ttccactagc tgggttctgt atttcagttc ttctgatacg gcttagggta atgtcagtac  
180  
aggaaaaaaa ctgtgcaagt gagcacctga ttccggtgcc ttgcttaacc ctaaagcncc  
240  
atgtcnnngg cnaaaancga aaaat  
265

<210> 76  
<211> 251  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 76  
tttctaaaca caattgttat agccagagga acaaagatga tataaaatat tgttgctctg  
60  
acaaaaatac atgtatttca ttctcgtatg gtgctagagt tagattaatc tgcattttaa  
120  
aaaactgaat tggnatagaa ttggtaagtt gcaaagnctt tttgaaaata attaaattat  
180  
catatcttcc attcctgtta ttggaggatg gaaaataaaa agcaacttat ggaaagtagg  
240  
acattcagat c  
251

<210> 77  
<211> 291  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 77  
ccttaatctc agttgtttgc ttcaaggacc tttcatcttc aggatttaca gtgcattctg  
60

naagangaga catcaaacag aattaggngt tgtgcaaaag ctcttttgag aggaggccta  
 120  
 aaggacagga gaaaaggctt ncaatcgtgg aaagnaaatt aaatgttgta tnaaatngat  
 180  
 caccagctag tttcagagtt accatgtacg tattccacta gctgggncng tattcagtct  
 240  
 ttcggaacgg cttagggtaa tgtcagtaca gganaaaaac tgtgcagtga g  
 291

<210> 78

<211> 253

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 78

gtactacaaa cctgggtttt aaaaaggaac tatgttgcta tgaattaaac ttgtgtccat  
 60  
 gctgatagga cagactggat tttncatatt tcttattaaa atttctgcca tttagaagaa  
 120  
 gagaactaca ttcattggtt ggnagagata aacctgaaaa gaagagtggc cttatcttca  
 180  
 ctttatcgat aagtcagttt atttgtttca tgtgtacatt tttatattct cctttgacat  
 240  
 ataacgtggc ttt  
 253

<210> 79

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 79

ttatattctc cttttgacat tataactgtt ggcttttcta atcttggttaa atatatctat  
 60  
 ttttacaaa ggtatttaat attctttttt atgacaactt agatcaacta tttttagctt  
 120  
 ggtaaatttt tctaaacaca attgttatag ccagaggaac aaagatgata taaaatattg  
 180  
 ttgctctgan aaaaatacat gtat  
 204

<210> 80

<211> 303

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 80

anactgtgca agtgagcacc tgattccgtt gccttgctta actctaaagc tccatgtcct  
 60  
 gggcctaaaa tcgtataaaa tctggannnn nnnnnnnnnn nnnngctcat attcacatat  
 120  
 gtaaaccaga acattctatg tactacaaac ctggttttta aaaaggaact atgttgctat  
 180

gaattaaact tgtgtcgtgc tgataggaca gactggattt ttcataattc ttattaaaat  
 240  
 ttctgccatt agaagaagag aactacnttc anggtttgga agagataacc ctgaaaagan  
 300  
 ggg  
 303

<210> 81  
 <211> 228  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 81  
 gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa  
 60  
 ggaactatatt gctatgaatt aaacttgtgt cgtgctgata ggacagactg gntttttcat  
 120  
 atttcttatt anaatttctg ccattagaag aagagaacta cattcatggt ttggaagaga  
 180  
 taaacctgaa aagaagagtg gcctatttca ctttatcgat aagtcagt  
 228

<210> 82  
 <211> 193  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 82  
 gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa  
 60  
 ggaactatgt tgctatgaat taaacttgtg tcgtgctgat aggacagact ggatttttca  
 120  
 tatttcttat taaaatttct gccatttaga agaagagAAC tacattcatg gtttggaaga  
 180  
 gataaacctg aaa  
 193

<210> 83  
 <211> 282  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 83  
 aaaaaactga attggaatag aattggtaag ttgcaaagac tntttgaaaa taattaaatt  
 60  
 atcatatctt ccattcctgt tattggagat gaanataaaa agcaacttat gaaagtagac  
 120  
 attcagatcc agccattact aacctattcc ttttttgggg aaatctgagc ctagctcaga  
 180  
 aaaacataaa gcaccttgaa aaagacttgg cagcttcctg ataaagcgtg ctgtntgtca  
 240  
 gtaggaacac atcctattta ttgtgatgnt gtggtttatt at  
 282

<210> 84  
 <211> 279  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 84  
 attaaataga tcaccagcta gtttcagagt taccatgtac gtattccact agctgggttc  
 60  
 tgtatttcag ttctttcgat acggcttagg gtaatgtcag tacaggaaaa aaactgtgca  
 120  
 agtgagcacc tgattccggt gccttggctt aactctaaag ctccatgtcc tgggcctaaa  
 180  
 atcgtataaa atctggattt tttntttttt ttttgcgcat attcacatat gtaaaccagn  
 240  
 acattctatg tacnacaaac ctgggttttta aaaaggaac  
 279

<210> 85  
 <211> 181  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 85  
 ggctagtttc agagttacca tgtacgtatt ccactagctg ggttctgtat ttcagttctt  
 60  
 tcgatacggc ttagggtaat gtcagtagag gaaaaaaact gtgcaagtga gcacctgatt  
 120  
 ccgttgccct gcttaactct aaagctccat gtcctggggc taaaatcgta taaaatctgg  
 180  
 a  
 181

<210> 86  
 <211> 269  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 86  
 tggtaagttg caaagacttt ttgaaaataa ttaaattatc atatcttcca ttctgttat  
 60  
 tggagatgaa aataaaaagc aacttatgaa agtagacatt cagatccagc cattactaac  
 120  
 ctattccttt tttggggaaa tctgagccta gtcagaaaa acataaagca ccttgaaaaa  
 180  
 gacttggcag cttcctgata aagcgtgctg tgctgtgcag tagggaacac atcctattta  
 240  
 ttgtgatgtt gtgggtttata tcctaaacc  
 269

<210> 87  
 <211> 184  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 87

aatagatcac cagctagttt cagagttacc atgtacgtat tccactagct gggntctgta  
60  
tttcagttcc ttccgatacg gcttagggta atgtcagtac aggaaaaaag ctgtgcaagt  
120  
gagcacctga ttccgttgcc ttgcttaact ctaaagctcc atgtcctggg cctaaaatcg  
180  
tata  
184

<210> 88

<211> 164

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 88

agataaacct gaaaagaaga gtggccttat nttcacttta tcgataagtc agnttatttg  
60  
tttcattgtg tacatttnna tattctcctt ttgacattat aactgntggc ttttctaanc  
120  
ntgttaaata tatctatttt taccaaaggt atttaaatatt cttt  
164

<210> 89

<211> 143

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 89

tatggtgcta gagttagatt aatctgcatt ttaaaaaact gaattggaat agaattggta  
60  
agttgcaaag actttttgaa aataattaaa ttatcatatc ttccattcct gttattggag  
120  
atgaaaataa aaagcaactt atg  
143

<210> 90

<211> 164

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 90

ttttttnttt tgctcatatt cacatatgta aaccngaaca ttctatgtac nacaaacctg  
60  
gttttttaaaa aggaactatg ttgctatgaa ttaaaacttgt gtcgtgctga taggacagac  
120  
tggatttttc anatttctta ntaanntttc tgccatttag aaga  
164

<210> 91  
<211> 244  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 91  
gtacaggaaa aaaactgtgc aagtgagcac ctgattccgt tgccttgctt aactctaaag  
60  
ctccatgtcc tgggcctaaa atcgtataaa atctggannn nnnnnnnnnn nnnnngctca  
120  
tattcacata tgtaaaccag aacattctat gtactacaaa cctgggtttt aaaaaggaac  
180  
tatgttgcta tgaattaaac ttgtgtcgtg ctgataggac agactggatt tttcatattt  
240  
ctta  
244

<210> 92  
<211> 254  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 92  
gcaaagactt tttganaatn attaanntat catatcttcc attcctgtta tnggagatga  
60  
naataaaaag caacttatga aagtagacat tcagatccag ccattactaa cctattcctt  
120  
ttttggggaa atctgagcct agcncagaaa aacataaagc accttgaaaa agacttgcca  
180  
gcttcctgat aaagcgtgct gtgctgtgca gtaggaacac atccnattta ttgtgntgtn  
240  
gnggttttat gatc  
254

<210> 93  
<211> 243  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human EST

<400> 93  
tgtcagtaca ggaaaaaaac tgtgcaagtg agcacctgat tccgttgctt tgcttaactc  
60  
taaagctcca tgtcctgggc ctaaaatcgt ataaaatctg gannnnnnnnn nnnnnnnnnn  
120  
gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa  
180  
ggaactatgt tgctatgaat taaacttggt tcattgctgat aggacagact ggatttttca  
240  
tat  
243

<210> 94

<211> 244  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 94  
 aattatcata tcttccattc ctgttattgg agatgnaaat aaaaagcaac ttatgaaagt  
 60  
 agacattcag atccagccat tactaaccta ttcctttttt ggggaaatct gagcctagct  
 120  
 cagaaaaaca taaagcacct tgaaaaagac tgtcagcttc ctgataaagc gtgctgtgct  
 180  
 gtgcagtagg aacacatcct atttattgtg atgttggtgtg tttattatct taaactcggt  
 240  
 ccat  
 244

<210> 95  
 <211> 152  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 95  
 anagatgata taaaanattg ttgctctgac aannatacat gtatttcatt ctcgtaggt  
 60  
 gctagagtta gattaatctg cnttttaaaa aactganttg gaatagantt ggtaagttgc  
 120  
 aaagncnttt gaaaatnatt aagttatcag at  
 152

<210> 96  
 <211> 292  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 96  
 ttccattcct gttattggag atgaaaataa aaagcaactt atgaaagtag acattcagat  
 60  
 ccagccatta ctaacctatt ctttttttgg ggaaatctga gcttagctca gaaaaacata  
 120  
 aagcaccttg aaaaagactt ggcagcttcc tgataaagcg tgctgtgctg tgcagtagga  
 180  
 acacatccta tttattgtga tgttgtggtt ttattatcta aactctgttc catacacttg  
 240  
 tataaataca tggatatattt tatgtacaga agtatgtctc ttaaccagtt ca  
 292

<210> 97  
 <211> 308  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Human EST

<400> 97  
cttccattcc tgttattgga gatgaaaata aaaagcaact tatganagta gacattcaga  
60  
tccagccatt actaacctat tccttttttg gggaaatctg agcctagctc agaaaaacat  
120  
aaagcacctt gaaaaagact tggcagcttc ctgataaagc gtgctgtgct gtgcagtagg  
180  
aacacatcct atttattgtg atgttgtggt tttattatct taaactctgt tccatacact  
240  
tgtataaata catggatatt tttatgtaca gaagtatgtc tcttaaccag ttcacttatt  
300  
gtacctgg  
308